

We claim:

Suba1 1. An apparatus, comprising:
2 an elongate body defining a proximal portion and a distal portion
3 and including a wall defining an inner surface, an outer surface and a lumen
4 extending from the proximal portion to an aperture in the distal portion;

5 a steering wire having a distal portion operably connected to the
6 distal portion of the elongate body; and

7 a stiffening member associated with the distal portion of the
8 elongate body.

1 2. An apparatus as claimed in claim 1, wherein the lumen comprises a
3 central lumen, the apparatus further comprising:

4 a stiffening member lumen offset from the central lumen, at least a
5 portion of the stiffening member being located within the stiffening member
lumen.

1 3. An apparatus as claimed in claim 1, wherein the lumen comprises a
2 central lumen and the stiffening member comprises a plurality of stiffening
3 members, the apparatus further comprising:

4 a plurality of stiffening member lumens respectively offset from the
5 central lumen, at least a portion of the stiffening members being located within
6 respective stiffening member lumens.

Suba2 4. An apparatus as claimed in claim 1, wherein the elongate body
2 defines a perimeter and the stiffening member comprises an elongate member
3 extending only partially around the perimeter.

1 5. An apparatus as claimed in claim 4, wherein the stiffening member
2 defines a substantially constant width.

1 6. An apparatus as claimed in claim 4, wherein the stiffening member
2 comprises a first portion defining a first width and a second portion defining a
3 second width less than the first width.

1 7. An apparatus as claimed in claim 4, wherein the stiffening member
2 comprises a proximal portion defining a proximal portion width and a distal
3 portion defining a distal portion width less than the proximal portion width.

1 8. An apparatus as claimed in claim 4, wherein the stiffening member
2 comprises a first portion defining a first width, a second portion defining a second
3 width less than the first width and third portion defining a third width substantially
4 equal to the first width, and the second portion is located between the first and
5 third portions.

1 9. An apparatus as claimed in claim 4, wherein the stiffening member
2 comprises a relatively long first portion defining a first width, a relatively short
3 second portion defining a second width less than the first width, a relatively short
4 third portion defining a third width substantially equal to the first width, and a
5 relatively long fourth portion defining a fourth width less than the first width.

1 10. An apparatus as claimed in claim 4, wherein the stiffening member
2 includes a prebent portion.

1 11. An apparatus as claimed in claim 4, wherein the stiffening member
2 defines a constant thickness.

1 12. An apparatus as claimed in claim 4, wherein the stiffening member
2 defines a variable thickness.

1 13. An apparatus as claimed in claim 1, wherein the stiffening member
2 comprises a coil portion and a elongate portion.

1 14. An apparatus as claimed in claim 13, wherein the coil portion and
2 elongate portion are secured to one another.

1 15. An apparatus as claimed in claim 13, wherein the coil portion and
2 elongate portion are integrally formed.

1 16. An apparatus as claimed in claim 13, wherein the stiffening
2 member comprises a tubular member with a plurality of notches.

1 17. An apparatus as claimed in claim 1, wherein the lumen comprises a
2 central lumen.

1 18. An apparatus as claimed in claim 17, further comprising:
2 a steering wire lumen offset from the central lumen and at least a
3 portion of the steering wire is located within the steering wire lumen.

1 19. An apparatus as claimed in claim 1, wherein the proximal portion of
2 the elongate body is relatively stiff and the distal portion of the elongate body is
3 relatively flexible.

1 20. An apparatus as claimed in claim 1, further comprising:
2 an anchoring member associated with the distal portion of the
3 elongate body and secured to the steering wire.

1 21. An apparatus as claimed in claim 20, wherein at least a portion of
2 the anchoring member is substantially radiopaque.

1 22. An apparatus as claimed in claim 20, wherein the anchoring
2 member is located within the wall of the elongate body between the inner surface
3 and the outer surface.

1 23. An apparatus as claimed in claim 20, wherein the stiffening
2 member defines a distal end secured to the anchoring member.

Sub a37 2 24. An apparatus as claimed in claim 23, further comprising:
 an anti-tear device associated with the stiffening member.

1 25. An apparatus as claimed in claim 24, wherein the stiffening
2 member defines a proximal end secured to the anti-tear device.

1 26. An apparatus as claimed in claim 1, further comprising:
2 a catheter supporting at least one of a diagnostic element and a
3 therapeutic element located within the lumen and slidable relative thereto.

1 27. An apparatus, comprising:
2 an elongate body proximal portion defining a lumen extending
3 therethrough, a distal end and a proximal portion stiffness;
4 an elongate body distal portion associated with the distal end of the
5 elongate body proximal portion, the elongate body distal portion defining a distal
6 end, a proximal end, a lumen extending therethrough, a length from the distal
7 end to the proximal end, and a perimeter, and including at least first and second
8 distal members that together form the elongate body distal portion, the first distal
9 member defining a first distal member stiffness and the second distal member
10 defining a second distal member stiffness less than the first distal member
11 stiffness; and
12 a steering wire having a distal portion operably connected to the
13 elongate body distal portion.

1 28. An apparatus as claimed in claim 27, wherein the first distal
2 member stiffness and the second distal member stiffness are both less than the
3 elongate body proximal portion stiffness.

1 29. An apparatus as claimed in claim 27, wherein the second distal
2 member defines a second lumen and the steering wire is located within the
3 second lumen.

1 30. An apparatus as claimed in claim 27, wherein the first and second
2 distal members are substantially semi-circular in cross-sectional shape.

1 31. An apparatus as claimed in claim 27, wherein the first and second
2 distal members occupy substantially equal segments of the elongate body distal
3 portion perimeter over the elongate body distal portion length.

1 32. An apparatus as claimed in claim 27, wherein the first and second
2 distal members occupy respective segments of the elongate body distal portion
3 perimeter that vary in size over the length of the distal portion.

1 33. An apparatus as claimed in claim 27, wherein the first distal
2 member occupies a segment of the elongate body distal portion perimeter that
3 varies in size over the elongate body distal portion length such that the first distal
4 member occupies substantially all of the perimeter at one end of the elongate
5 body distal portion and occupies substantially none of the perimeter at the other
6 end of the elongate body distal portion.

1 34. An apparatus as claimed in claim 27, wherein the first distal
2 member occupies a segment of the elongate body distal portion perimeter that
3 increases in size over a first portion of the elongate body distal portion length
4 and decreases in size over a second portion of the elongate body distal portion
5 length.

1 35. An apparatus as claimed in claim 27, wherein the elongate body
2 distal portion includes a third distal member and the third distal member defines
3 a stiffness less than the first distal member stiffness and greater than the second
4 distal member stiffness.

1 36. An apparatus as claimed in claim 35, wherein the first distal
2 member is located distally of the second and third distal members and the third
3 distal member is located distally of the second distal member.

1 37. An apparatus as claimed in claim 35, the first, second and third
2 distal members occupy respective segments of the elongate body distal portion
3 perimeter and the segments vary in size over the elongate body distal portion
4 length.

1 38. An apparatus as claimed in claim 35, wherein the first, second and
2 third distal members define respective lengths and occupy respective segments
3 of the elongate body distal portion perimeter and the respective sizes of the
4 segments remain substantially constant over the respective lengths distal
5 members.

1 39. An apparatus as claimed in claim 27, wherein the first distal
2 member comprises a pair of first distal members respectively located on opposite
3 sides of the second distal member.

1 40. An apparatus as claimed in claim 27, wherein the second distal
2 member comprises a wall defining the elongate body distal portion lumen and
3 the first distal member is located within the wall.

1 41. An apparatus as claimed in claim 40, wherein the first distal
2 member extends substantially from the proximal end of the elongate body distal
3 portion to the distal end of the elongate body distal portion.

1 42. An apparatus as claimed in claim 40, wherein the wall includes an
2 inner surface and an outer surface and the first distal member is located in
3 spaced relation to the inner surface.

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